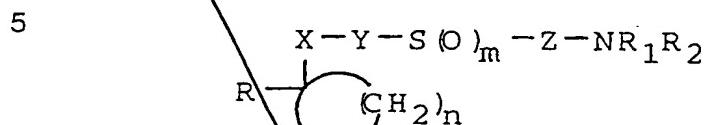


Claims

1) Compounds of formula I



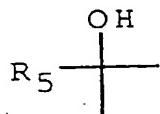
I

10 and pharmaceutically acceptable salts thereof in which

m is 0, 1 or 2;

n is 2, 3, 4 or 5;

15 X is carbonyl or a group of formula II



II

in which  $\text{R}_5$  is H or an alkyl group containing 1 to 4 carbon atoms;

25 Y is an alkylene chain containing 1 or 2 carbon atoms optionally substituted by one or more alkyl groups containing 1 to 3 carbon atoms;

Z is an alkylene chain containing 2 to 5 carbon atoms optionally substituted by one or more alkyl groups containing 1 to 3 carbon atoms;

30 R is phenyl optionally substituted by one or more halo substituents (for example fluoro, chloro, bromo or iodo) or R is naphthyl; and

35  $\text{R}_1$  and  $\text{R}_2$ , which are the same or different, are H; a straight or branched chain alkyl group containing 1 to 4 carbon atoms, an arylalkyl group in which the

alkyl group contains 1 to 3 carbon atoms, provided that when R<sub>1</sub> is benzyl, R<sub>2</sub> is H or methyl;

for use in the treatment of drug misuse or other addictive disorders.

15 2) The use of compounds of formula I as claimed in claim 1 in which m is 0,1 or 2 and n is 3 or 4.

3) The use of compounds of formula I as claimed in any preceding claim in which X is carbonyl or a group of formula II in which R<sub>5</sub> is H.

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4) The use of compounds of formula I as claimed in any preceding claim in which Y is methylene.

15 5) The use of compounds of formula I as claimed in any preceding claim in which Z is an alkylene chain containing 2,3 or 4 carbon atoms optionally substituted by one or more alkyl groups containing 1 to 3 carbon atoms .

20 6) The use of compounds of formula I as claimed in any preceding claim in which Z is an alkylene chain containing 2,3 or 4 carbon atoms optionally substituted by one or more methyl groups.

7) The use of compounds of formula I as claimed in any preceding claim in which R is phenyl substituted by one or two chloro substituents or R is naphthyl.

25 8) The use of compounds of formula I as claimed in any preceding claim in which R is 3-chlorophenyl, 3,4-dichlorophenyl or 2-naphthyl.

9) The use of compounds of formula I as claimed in any preceding claim in which R<sub>1</sub> is an alkyl group containing 1 to 3 carbon atoms or is benzyl, and R<sub>2</sub> is an 30 alkyl group containing 1 to 3 carbon atoms.

10) The use of compounds of formula I as claimed in any preceding claim in which R<sub>1</sub> and R<sub>2</sub> are both methyl or ethyl or R<sub>1</sub> is benzyl and R<sub>2</sub> is methyl.

35 11) The use of compounds of formula III

*A! cont-*

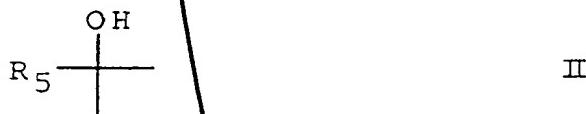
and pharmaceutically acceptable salts thereof in which

5 m is 0, 1 or 2;

n is 2, 3, 4 or 5;

X is carbonyl or a group of formula II

10



15

in which R5 is H or an alkyl group containing 1 to 4 carbon atoms;

*A*

Y is an alkylene chain containing 1 or 2 carbon atoms optionally substituted by one or more alkyl groups containing 1 to 3 carbon atoms;

20

Z is an alkylene chain containing 2 to 5 carbon atoms optionally substituted by one or more alkyl groups containing 1 to 3 carbon atoms;

25

R1 and R2, which are the same or different, are H, a straight or branched chain alkyl group containing 1 to 4 carbon atoms, an arylalkyl group in which the alkyl group contains 1 to 3 carbon atoms, provided that when R1 is benzyl, R2 is H or methyl;

and R3 is halo, and R4 is H or halo, or R3 and R4 together with the carbon atoms to which they are attached form a fused benzene ring.

30

12) The use of compounds of formula III as claimed in claim 11 in which R3 is chloro and R4 is H, R3 and R4 are both chloro or R3 and R4 together with the carbon atoms to which they are attached form a fused benzene ring.

35

13) The use of compounds of formula III as claimed in any preceding claim in which R3 is chloro situated in the 3-substitution position on the phenyl ring and R4 is

*Q1 Cont.*

H, R<sub>3</sub> and R<sub>4</sub> are both chloro and are situated in the 3- and 4-substitution positions on the phenyl ring respectively, or R<sub>3</sub> and R<sub>4</sub> together with the phenyl ring to which they are attached form a 2-naphthyl group.

- 5 14) The use of compounds of formula I as claimed in claim 1 which are:

1-[1-(3,4-dichlorophenyl)cyclobutyl]-2-[2-(dimethylamino)ethylthio]ethanone;

1-[1-(3,4-dichlorophenyl)cyclobutyl]-2-[2-(dimethylamino)ethylsulphiny]ethanone;

10 1-[1-(3,4-dichlorophenyl)cyclobutyl]-2-[2-(dimethylamino)ethylsulphony]ethanone;

1-[1-(3,4-dichlorophenyl)cyclobutyl]-2-[2-(diethylamino)ethylthio]ethanone;

15 15) 2-[2-(N-benzyl-N-methylamino)ethylthio]-1-[1-(3,4-dichlorophenyl)cyclobutyl]-ethanone;

1-[1-(3,4-dichlorophenyl)cyclobutyl]-2-[2-(dimethylamino)ethylthio]ethanol;

20 20) 1-[1-(3,4-dichlorophenyl)cyclobutyl]-2-[3-(dimethylamino)propylthio]ethanone;

1-[1-(3,4-dichlorophenyl)cyclobutyl]-2-[3-(dimethylamino)propylsulphony]ethanone;

25 1-[1-(3,4-dichlorophenyl)cyclobutyl]-2-[3-(dimethylamino)propylthio]ethanol;

1-[1-(3,4-dichlorophenyl)cyclobutyl]-2-[3-(dimethylamino)-2-methylpropylthio]-ethanone;

2-[2-(dimethylamino)ethylthio]-1-[1-(2-naphthyl)cyclobutyl]ethanone;

30 30) 1-[1-(3-chlorophenyl)cyclobutyl]-2-[3-(dimethylamino)propylthio]ethanone;

1-[1-(3,4-dichlorophenyl)cyclobutyl]-2-[4-(dimethyl- amino)butylthio]ethanone;

35 35) 1-[1-(3,4-dichlorophenyl)cyclobutyl]-2-[3-(dipropyl- amino)propylthio]ethanone;

*(Acet)*  
1-[1-(3,4-dichlorophenyl)cyclobutyl]-2-[3-(dimethylamino)-2-methylpropylthio]ethanol;

1-[1-(3,4-dichlorophenyl)cyclopentyl]-2-[3-(dimethylamino)propylthio]ethanone;

5 and pharmaceutically acceptable salts thereof in the form of individual enantiomers, racemates, or other mixtures of enantiomers.

10 15) Pharmaceutical compositions comprising a therapeutically effective amount of a compound of formula I as claimed in claim 1, together with a pharmaceutically acceptable diluent or carrier.

15 16) A method of treating drug misuse or other addictive disorders which comprises the administration of a therapeutically effective amount of a compound of formula I as defined in any one of claims 1 to 14 to a patient in need thereof.

20 17) A method of reducing cravings to food or an addictive substance in a mammal comprising administering an effective amount of a compound of formula I as defined in any one of claims 1 to 14 to a mammal in need thereof.

25 18) A method as claimed in claim 17 wherein the addictive substance is cocaine, amphetamine, nicotine, opiates, tobacco, alcohol or ecstasy.

19) The use of a compound of formula I as claimed in any of claims 1 to 14 in the manufacture of a medicament for use in the treatment of drug misuse or other addictive disorders